



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,314	06/30/2003	Joseph Edward Pekarek	AWR-P03008	3997

Robert Hart
10th Floor, Suite H528
28 East Jackson Building
Chicago, IL 60604

7590

02/22/2007

EXAMINER

PATEL, SHAMBHAVI K

ART UNIT	PAPER NUMBER
----------	--------------

2128

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/611,314	Applicant(s) PEKAREK ET AL.	
	Examiner Shambhavi Patel	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in reply to the Applicant Arguments/Remarks submitted 27 November 2006.
2. Claims 2-15 are pending. Claim 1 has been cancelled.

Response to Arguments

3. The Double Patenting rejection is withdrawn in view of the Applicants' amendments.
4. Applicant's arguments filed 27 November 2006 regarding the 103(a) rejection of claim 1 are moot in view of the cancellation of the claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 2-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 2:

- i. The terms Z1L, Z2R, and Z3R are not clearly defined in the claim. They are merely indicated as impedance values. For example however, based on the claim language, it can be interpreted that the values Z1L, Z2R, and Z3R are equivalent to Z1R, Z2L, and Z3L, respectively. Based on figure 34, Z1L is interpreted to be the calculated output impedance of the first block during reverse propagation, Z2R is interpreted to be the calculated input impedance of the second block during forward propagation, and Z3R is interpreted to be the

Art Unit: 2128

calculated input impedance of the third block during forward propagation. Correction is respectfully requested.

- ii. Based on **figure 34**, the terms MMA, MMB and MMC are interpreted to be the calculated impedance mismatches of the first, second and third blocks, respectively. However, the meaning of these terms is not clear from the claims and correction is respectfully requested.

Regarding claim 9:

- iii. The terms Z1L, Z2L, and Z3R are not clearly defined in the claim. They are merely indicated as impedance values. For example however, based on the claim language, it can be interpreted that the values Z1L, Z2L, and Z3R are equivalent to Z1R, Z2R, and Z3L, respectively. Based on **figure 34**, Z1L is interpreted to be the calculated output impedance of the first block during reverse propagation, Z2L is interpreted to be the calculated input impedance of the first block during reverse propagation, and Z3R is interpreted to be the calculated input impedance of the third block during forward propagation. Correction is respectfully requested.
- iv. Based on **figure 34**, the terms MMA1, MMA2 and MMB are interpreted to be the calculated impedance mismatches of the first input of the first block, second input of the first block and second block, respectively. However, the meaning of these terms is not clear from the claims and correction is respectfully requested.

All other claims are rejected by virtue of their dependency.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Art Unit: 2128

6. Claims 2-15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The Examiner asserts that the current state of the claim language is such that a reasonable interpretation of the claims would not result in any useful, concrete or tangible product.

Regarding claims 2 and 9:

- i. The claims are directed to a simulation system for calculating the impedance mismatch of a behavior model system simulation system. The claimed subject matter lacks a practical application of a judicial exception since it fails to produce a useful, concrete and tangible result. Specifically, the claimed subject matter does not produce a tangible result because the claimed subject matter fails to produce a result that is limited to having real world value rather than a result that may be interpreted to be abstract in nature as, for example, a computation, or manipulated data. More specifically, the claimed subject matter provides for calculating impedance mismatches for the source blocks. This produced result remains in the abstract and, thus, fails to achieve the required status of having real world value.
- ii. The claims are system claims, but appear to recite only method steps (specifically, mathematical calculations), that can be fully implemented in software. There is no hardware (i.e. processor) that is used to execute the steps.

All other claims are rejected by virtue of their dependency.

Allowable Subject Matter

8. Claims 2-15 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph and 35 U.S.C. 101 set forth in this Office action.

The following is an Examiner's statement of Reasons for Allowance:

Art Unit: 2128

Regarding claim 2:

The prior art discloses calculating the impedance mismatch of a source block having at least one input and a plurality of outputs. However, the prior art of record does not explicitly disclose obtaining Z1L, Z2R, and Z3R by the property propagation methodologies (interpreted in light of pages 32-34 of the specification), calculating the values Z1R, Z2L, and Z3L using the techniques recited in the second, third, and fourth limitations of the claim, back propagating the value of Z1R to an input node for the first source block, back propagating the value of Z2L to an output node for the first source block, back propagating the value of Z3L to an output node for the first source block and propagating the impedance values for Z2L to the second source block and the new impedance value Z3L to the third source block.

Furthermore, the prior art of record does not meet the conditions as suggested in MPEP section 2132, namely:

“The identical invention must be shown in as complete detail as is contained in the ... claim.”
Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).”

In particular, the prior art of record does not disclose the specific combination of system elements and features inclusive of “A system simulator for calculating the impedance mismatch of a source block having at least one input and plurality of outputs, comprising obtaining impedance values Z1L of a first source block, impedance values Z2R from a second source block and impedance value Z3R from a third source block by a property propagation methodology; calculating impedance value Z1R of the first source block from the values for Z2R from the second source block, Z3R from the third source block and back propagating the value of Z1R to an input node for the first source block; calculating impedance values for Z2L of the first source block from the values for Z1R from the first source block, Z3R from the third source block and back propagating the value of Z2L to an output node for the first

Art Unit: 2128

source block; calculating impedance values for Z3L of the first source block from the values for Z1R from the first source block, Z2R from the second source block and back propagating the value of Z3L to an output node for the first source block; propagating the impedance values for Z2L to the second source block and the new impedance value Z3L to the third source block; and calculating a value for MMA for the first source block, a value for MMB for the second source block, and a value for MMC for the third source block.” as now recited in independent claim 2.

Dependent claims 3-8 are deemed allowable as depending from independent claim 2.

Regarding claim 9:

The prior art discloses calculating the impedance mismatch of a source block having at least one input and a plurality of outputs. However, the prior art of record does not explicitly disclose obtaining Z1L, Z2L, and Z3R by the property propagation methodologies (interpreted in light of pages 32-34 of the specification), calculating the values Z1R, Z2R, and Z3L using the techniques recited in the second, third, and fourth limitations of the claim, back propagating the value of Z1R to an input node for the first source block, back propagating the value of Z2R to an output node for the first source block, back propagating the value of Z3L to an output node for the first source block and propagating the impedance values for Z2L to the second source block and the new impedance value Z3L to the third source block.

Furthermore, the prior art of record does not meet the conditions as suggested in MPEP section 2132, namely:

“The identical invention must be shown in as complete detail as is contained in the ... claim.”
Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).”

In particular, the prior art of record does not disclose the specific combination of system elements and features inclusive of "A system simulator for calculating the impedance mismatch of a source block having at least one input and plurality of outputs, comprising obtaining impedance values Z_{1L} of a first source block, impedance value Z_{2L} from a second source block and impedance value Z_{3E} from a third source block by a property propagation methodology; calculating impedance value Z_{1R} of the first source block from the values for Z_{2R} from the second source block, Z_{3R} from the third source block and back propagating the value of Z_{1R} to an input node for the first source block; calculating impedance values for Z_{2R} of the first source block from the values for Z_{1L} from the first source block, Z_{3R} from the third source block and back propagating the value of Z_{2R} to an output node from the first source block; calculating impedance values for Z_{3L} of the first source block from the values for Z_{1L} from the first source block, Z_{2L} from the second source block, and back propagating the value of Z_{3L} to an output node for the first source block; propagating the impedance values for Z_{2L} to the second source block and the new impedance value Z_{3L} to the third source block; and calculating values for MMA_1 and MMA_2 for the first source block, and a value for MMB for the third source block." as now recited in independent claim 9.

Dependent claims 10-15 are deemed allowable as depending from independent claim 9.

Art Unit: 2128

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shambhavi Patel whose telephone number is (571) 272-5877. The examiner can normally be reached on Monday-Friday, 8:00 am – 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571) 272-2279. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SKP


KAMINI SHAH
SUPERVISORY PATENT EXAMINER